

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I claims 1-7 in the reply filed on 07/09/07 is acknowledged. The traversal is on the ground(s) that there is no burdened if both Group I and Group II are to be considered. This is not found persuasive because a) the separate classifications of the two inventions the search is not coexistent, the different fields of search for the process and product and b) it is necessary to search for one of the inventions in a manner that is not likely to result in finding art pertinent to the other invention(s). In addition, the inventions is lack of unity as defined under PCT Rule 13.1 and 13.2 as indicated by Office action date 09/12/07. The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-2 and 4 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6858919 to Seo.

Regarding claim 1, Seo discloses an integrated circuit device package (103) in fig. 4b, comprising: an integrated circuit device (2) having an electrically active surface

(2b) and an opposing backside surface (2c) and sides (vertical side) extending therebetween, said electrically active surface (2b) having a plurality of electrically active circuit traces formed thereon and metallized bumps (2a) extending from selected sites on said circuit traces; a plurality of electrically conductive leads (6) each having respective first surfaces and opposing second surfaces; a plurality of electrical contacts (12) extending outward from said respective first surfaces; a solder (8) electrically and mechanically bonding said metallized bumps (2a) to said second surfaces; and a dielectric molding resin (10) formed into a package at least partially encapsulating said integrated circuit device (2) and said plurality of electrically conductive leads (6), said backside surface (2c) and said plurality of electrical contacts (12) are exposed on opposing sides of said package.

Regarding claim 2, Seo discloses the package (103) of claim 1 wherein said sides (17) include at least one feature (vertical surface) that is effective to limit the ingress of moisture along an interface between said integrated circuit device (2) and said dielectric molding resin (10).

Regarding claim 4, Seo discloses the package (103) of claim 2 wherein a thickness of said package is less than three times a thickness of said integrated circuit device (the molding is coplanar to the surface of the IC), fig. 4b.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
6. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of US 6759745 to Masumoto et al.

Regarding claim, Seo does not disclose the package (103) of claim 2 wherein said at least one feature includes two elements that intersect at an angle of approximately 90°.

However, Masumoto discloses a package in fig. 5 comprising a die (500) having at least one feature includes two elements (step portion at 517) that intersect at an angle of approximately 90°. At the time the invention was made; it would have been obvious to a person having ordinary skill in the art to incorporate the die having step portion teaching of Masumoto in the package of Seo, because it would have reduced the amount of the fillet spread out around semiconductor chip as taught by Masumoto, see abstract.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of US 6700206 to Kinsman et al.

Regarding claim 5, Seo fails to disclose the package of claim 4 wherein said thickness of said package is approximately 0.01 inch.

However, Kinsman discloses a package (10) in fig. 1B having a thickness approximately 0.012 inch, col. 6 line 20. Accordingly, it would have been obvious to one of ordinary skill in art to use the thickness teaching of Kinsman in the range as claimed, because it has been held that where the general conditions of the claims are disclosed in the prior art, it is not inventive to discover the optimum or workable range by routine experimentation, MPEP 2144.05, and such package thickness is typical in the art.

8. Claims 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seo in view of US 7192789 to Okada et al.

Regarding claim 6-7, Seo fails to disclose the package of claim 2 wherein said integrated circuit device is a sensor responsive to external stimulus, wherein said external stimulus is a touch

However, Okada discloses a package in fig. 5 or 7 comprising an IC (2) having an exposed surface wherein said IC (2) is a sensor responsive to external stimulus, wherein said external stimulus is a touch (finger sensor). At the time the invention was made; it would have been obvious to a person having ordinary skill in the art to use the finger sensor teaching of Okada in the package of Seo for an intended purpose such as touch sensitive device.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

17 Nov. 2007

/Thao X Le/
Primary Examiner, Art Unit 2814